Invention claim

1.   Methods for contactless measurement of the wall [1]
thickness of transparent object to be measured by employing [2]
of light sources, lenses, deflection mirrors or deflection [3]
prisms, semi permeable mirrors as well as line sensors and a [4]
controller, characterized in that the light from the [5]
illuminating surface (11) is initially collimated and in the [6]
following focused onto the surface of the object to be [7]
measured (1) under an angle incidence relative to the normal [8]
of the surface, wherein the two reflexes of light, which [9]
reflexes occur at the front side and at the back side, are [10]
imaged furthermore onto the opto-electronic image resolving
sensor (26) and wherein the light from the second
illuminating surface (21) is simultaneously also initially
collimated and in the following focused in the direction
toward the surface of the object to be measured (1), wherein [15]
the direction toward the surface of the object to be
measured (1) corresponds to the exit direction of the light
from the illuminating face (11), and wherein furthermore the
reflexes of the second beam are imaged onto the second opto-
electronic image resolving sensor (16) and wherein the [20]
average value of the distances of the respective two

reflexes on the two opto-electronic image resolving sensors
is evaluated as a measure of the wall thickness in a
following disposed controller (3).

2.   Device or contactless measurement of the wall
thickness of transparent object to be measured employing
light sources, lenses, semi permeable mirrors or semi
permeable prisms as well as image resolving sensors and a
controller, characterized in that the lens (12) is disposed
following to the first illuminating surface (11), wherein
the semi permeable mirror (13) is disposed behind the lens
(12) in such way that the light is reflected into the
objective (14) and is further focused onto the measurement
object (1) and wherein furthermore the objective (24) is
disposed such that the objective (24) together with the lens
(25) images the beams reflected at the object to be measured
onto the sensor (26) through the semi permeable mirrors (23)
and wherein the lens (22) is simultaneously coordinated to
the second illuminating face (21), wherein the semi
permeable-mirror (23) is disposed following to the lens (22)
in such way that the light from the second illuminating face
is focused also onto the object to be measured (1) the
objective (24), wherein the direction of incidence of the

light corresponds to the exit direction of light from the [20] first illuminating face and wherein the reflexes are imaged [21] onto the sensor (16) through the objective (14), wherein the [22] controller (3) is connected following to the two sensors. [23]

3.   Device according to claim 2, characterized in that the illuminating faces (11) and (21) are light exit openings of light guides.

4.   Device according to claim 2 and 3, characterized in that the light exit opening of the light guides is formed of line shape.

5.   Device according to claim 2, characterized in that the illuminating faces (11) and (21) are lasers with beam expansion optics.

6.   Device according to claim 2, characterized in that the illuminating faces (11) and (21) are light sources with the predisposed slot diaphragms.